

Silverthorne Elementary

Mike Arnold
Director of Operations &
Maintenance



Silverthorne Elementary







About the School

Type: K-5

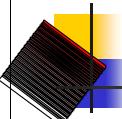
Size: 62,000 sq. ft., 2-stories

Student Capacity: 450

Construction Cost: \$9 million

Completion Date: June 2004





Sustainable Design Goals

Energy Efficiency

- Using Natural Resources
- Whole building energy analysis / Rebuild Colorado
- Building envelope, HVAC and lighting systems
- Building commissioning
- Integrated design process

Quality Indoor Environment

- Low toxicity building products
- Fresh air ventilation
- Natural daylighting

Environmental Responsibility

- Indoor water efficiency
- Environmentally appropriate landscaping
- Efficient transportation
- Electric automobile recharging stations
- Resource efficient building materials



Orientation

North and south solar orientation for classroom and instruction spaces allows for direct light that is easily controlled.

Increasing the mass and insulation of the building envelope protects the building from the temperature swings at the heat of day and the cold of night.

Landscaping blocks winter storm winds and deposits snow at the edge of the property, away from entries and play areas.

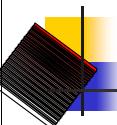


valley and mountain ranges.

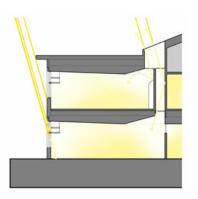








Daylighting Design

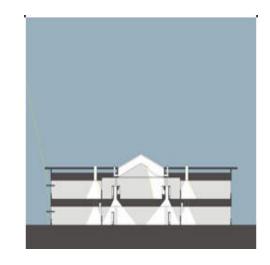


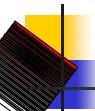
Guiding principle:

No electric lights should be needed in classrooms during

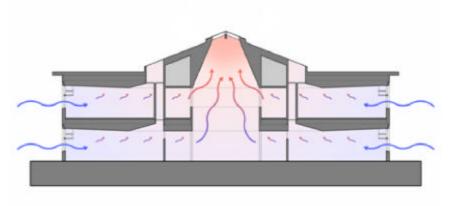
the day.







Natural Ventilation



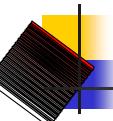
The building has no mechanical cooling, except in the computer rooms and office. Instead, the building relies on natural ventilation from its operable windows.











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